REMARKS

The present invention addresses the formation of acrylamide, for example in the case of ramen noodles, that are subsequently dehydrated for storage and reconstitution by placing the steamed noodles in a vat of hot oil.

The cited references do not anticipate or render obvious the instant claims

Claims 21 – 23, 25, 28, 29, 31 - 34 of the above-identified application were rejected as anticipated pursuant to 35 U.S.C. Section 102(b) by *Karpennen et al.* (United States Patent No. 6,136,349).

Karpennen et al. was also applied against Claims 24, 26, 27 and 30 pursuant to 35 U.S.C. Section 103(a).

Claims 35, 42 –44, 46 - 47 were rejected as anticipated pursuant to 35 U.S.C. Section 102(e) by *Bouwmeesters et al.* (United States Patent Number 6,929,814).

The *Bouwmeesters et al.* reference was also applied against Claims 36 – 41, 56 and 48 pursuant to 35 U.S.C. Section 103(a).

At the outset of these Remarks applicant notes that neither of the two cited references mentions in any way that the purpose of adding an additive to food before baking, frying or otherwise heating would be to reduce the formation of acrylamide. The present claims were amended to make it even more explicit that the claimed process is used to obtain certain food products having a reduced acrylamide content.

The stated use and purpose of *Karpennen et al.* is to reduce the cholesterol level and lower blood pressure of the consumer of the food. In accordance with this reference magnesium, calcium and potassium is added to the food, such as dough for baking bread, together with *plant*

sterols or stannols. (See for example column 2, lines 16 and 17 of the reference.) Basically, *Karpennen et al.* is seeking to provide both a mineral to the gastrointestinal tract at the same time that a plant sterol or stannols are in the tract to reduce serum cholesterol levels.

Thus, *Karpennen et al.* teaches a unitary treatment that must include the mentioned ions with plant sterols or stannols to be effective in the gastrointestinal tract. This reference method is not identical with the method and food product claimed in the present application, because the present claims entirely avoid adding plant sterols or stannols and because the present claims add the calcium or magnesium ions for a different use and for a different purpose. For this reason the *Karpennen et al.* reference does not anticipate the instant claims.

Moreover, the instant claims 49 – 51 call for preparation of fried noodles in steps which include preparing the dough, shaping it into form of noodles, steaming the noodles, *applying* an additive containing calcium or magnesium ions to the steamed noodles and thereafter frying. The applying step takes the form of spraying the noodles with a solution of these ions, or dipping the noodles into the solution of these ions.

Instant Claims 52 – 54 call for preparation of fried potato pieces including the steps of applying an additive containing calcium or magnesium ions to the uncooked potato pieces and thereafter frying the potato pieces. Again the step of applying takes the form of spraying or dipping. The *Karpennen et al.* reference is entirely lacking these features. Therefore the *Karpennen et al.* reference does not anticipate these claims.

The steps recited in Claims 49 – 54 are amply supported by the original specification. In connection with the steps of "applying" see for example pages 15 (coating, dipping or showering), page 23 (noodles steamed, then sprayed with seasoning solution containing calcium chloride and thereafter fried), pages 50 – 51 (potato chips dipped into solution of "test

compounds" that included the ions claimed Ca, Mg, iron and other ions claimed in the instant claims altogether, and thereafter fried).

Mr. Tomo Takayama is a food chemist working for Toyo Suisan Kaisha Ltd. (the parent company of Maruchan Inc.) and is also a co-inventor of the present application. Mr. Takayama performed an experiment using the plant sterol/stannol calcium carbonate and magnesium ingredients of Example 2 of the cited *Karpennen et al.* reference but applied it to making of fried noodles. He found that the resulting fried noodles had a bitter taste and less elastic consistency than the control noodles and therefore would not have made a commercially acceptable product.

Applicant respectfully submits that it would not have been obvious to one of ordinary skill in the art to modify the process of the *Karpennen et al.* reference by leaving out the plant sterol/stannol ingredient and keep magnesium or calcium or any other of the instantly claimed ions for the purpose of reducing acrylamide formation during heating, such as baking or frying.

> "[A]nticipation by inherent disclosure is appropriate only when the reference discloses prior art that must *necessarily* include the unstated limitation. . . ."
>
> *Transclean Corp. v. Bridgewood Services, Inc.,* 290 F.3d 1364, 62 USPQ2d 1865 (Fed. Cir. 2002)

The Office Action asserted that the result of reduced acrylamide formation is inherent in the process of the *Karpennen et al.* reference. This is certainly not the case for the process of applying (such as dipping or spraying, Claims 49-54) because the reference does not describe such a process. Because of the lack of any suggestion in the reference for reducing acrylamide formation, a person of ordinary skill would not have found it obvious from reading this reference that acrylamide formation can be reduced by dipping (spraying) noodles and potato chips in a solution of calcium, magnesium and iron ions.

The purpose of *Karpennen et al.* is to decrease the cholesterol level and blood pressure in the human body.

> "Inherency 'may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'"
>
> *Continental Can Co. USA Inc. v. Monsanto Co.*, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991).

In contrast, the purpose of the present invention is to reduce the amount of acrylamide formed during any heating or cooking of food. Since acrylamides can be potentially harmful to the body, the reduction of acrylamides would be beneficial to the human body because it would reduce the intake of potentially toxic substances.

Thus, the purpose of the present invention is different from the purpose of *Karpennen et al.* because the present invention seeks to reduce the amount of acrylamides entering the human body while *Karpennen et al.* specifically seeks to decrease cholesterol and blood pressure in the human body. Therefore, the present invention has novelty and inventiveness over *Karpennen et al.* because even if *Karpennen et al.* is a known process, there is no indication that the purpose of *Karpennen et al.* is the same purpose as the present invention.

> "An anticipating reference must describe the patented subject matter with sufficient clarity and detail to establish that the subject matter existed in the prior art and that such existence would be recognized by persons of ordinary skill in the field of the invention. *See In re Spada*, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990); *Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675, 678, 7 USPQ2d 1315, 1317 (Fed. Cir. 1988)."

The cited *Bouwmeesters et al.* reference is even less applicable to the instant claims than the previously discussed *Karpennen et al.* reference.

Bouwmeesters et al. reference seeks to add flavor beads that will be stable during cooking and not decompose. The Office Action considered this reference as if, in the method of this reference, the polyvalent ions of the present claims 35, 42 - 44, 46 – 47 were added *as an additive in the conventional sense*, before heating the food. Contrary to this view, the reference process involves dropping certain water insoluble substances into a solution of calcium or other polyvalent ions resulting in a water insoluble bead or encapsulate. Thereafter a flavor is added to the bead or encapsulate. The ions form a salt on the surface of the capsule or bead and stay there or migrate inwardly (see column 8 lines 38 – 40 of the reference). When the beads or encapsulate are added to food to be further prepared by heating they are unlikely to act as an otherwise uniformly distributed ingredient and unlikely to reduce the formation of acrylamide. In any case, the process described in this reference is different from the instantly claimed processes and clearly represents a different use and purpose.

The Examiner expressed the view that each of the reference processes will inherently decrease formation of acrylamide. However, pursuant to applicable statutes and court decisions this allegedly inherent result of the reference process does not negate the patentability of the instant process claims.

Under 35 U.S.C. §§ 100 and 101, new uses of a known process are patentable, except where the purpose of the new use is directed towards the same purpose as the known process. 35 U.S.C. §§ 100, 101; *Abbott Labs. v. Baxter Pharm. Prods., Inc.*, 471 F.3d 1363, 1368-69, 80 U.S.P.Q. 2d 1860 (Fed. Cir. 2006) (citing *Bristol-Meyers Squibb*, 245 F.3d 1368, 1376, 58 U.S.P.Q. 2d 1508 (Fed. Cir. 2001). In *Abbott Labs.* the Federal Circuit reaffirmed its statement in *Bristol-Meyers Squibb* that new uses of a known process were indeed patentable if the purpose

of the new use differed from the purpose of the known process. *Abbott Labs.*, 471 F.3d at 1368-69.

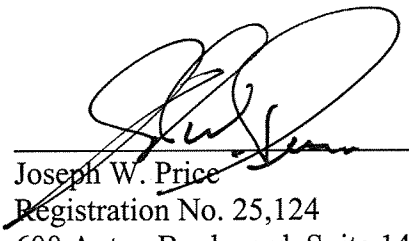
Clearly, the presently claimed process is used to reduce acrylamide formation. This is a new use (and purpose) within the meaning of the statutes 35 U.S.C. §§ 100, 101 and the above-cited court decisions.

In light of the foregoing the cited references would not legally prevent applicant from patenting the presently claimed new use of the process even if the claimed process were identical, except for use or purpose, with the prior art, which is NOT the case as it has been shown above.

In the event the Examiner is of the opinion that a telephone conference with the undersigned attorney would materially facilitate the final disposition of this case, she is respectfully requested to telephone the undersigned attorney at the below listed telephone number.

Very truly yours,

SNELL & WILMER L.L.P.



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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Patent Examiner: Tran, Lien T.
Yoshio Tomoda, et al.	Group Art Unit: 1761
Serial No.: 10/734,766	
Filed: December 11, 2003	
For: METHOD OF DECREASING ACRYLAMIDE IN FOOD COOKED UNDER HEAT	April 6, 2007 Costa Mesa, CA 92626

DECLARATION OF TOMO TAKAYAMA

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

1. I received a Bachelor of Agriculture degree from Tohoku University in March 1999 and a Master's degree in Agricultural Science from Tohoku University in March 2001. I joined Toyo Suisan Kaisha, Ltd. (the parent company of Maruchan Inc.) in April 2001, and have been employed since then and been engaged in food preparation and food chemistry research and development with particular emphasis on research and development of instant noodles. I am a co-inventor of the present invention described and claimed in the above-identified application. My current position continues to be in the research and development department of my employer.

2. Recently the following experiment was conducted by me or under my supervision.

3. We prepared fried noodles using the ingredients of Example 2 of the *Karpennen et al.* (US Patent No. 6,136,349) patent reference. Specifically, besides the ingredients normally used for making a dough for noodles we added magnesium sulfate, calcium carbonate and plant sterol in the rations comparable or identical with Example 2 of the reference. We found that although formation of acrylamide was reduced, the resulting fried noodles were less than acceptable for commercial production because of unsatisfactory consistency and bitter taste. These results are in contrast with the presently claimed process that produces commercially acceptable product.

4. In light of the foregoing I am of the opinion that a reasonable balance between AA formation and commercially acceptable quality of fried noodles is not attained, when the teaching of the in *Karpennen et al.* reference is applied to making fried noodles. This is in contrast with the presently claimed process that results in commercially acceptable product.

5. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that

willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date: April 6, 2007

Tomo Takayama

Tomo Takayama